

Before the
Federal Communications Commission
Washington, D.C. 20554

In the matter of
Federal-State Joint Board on
Universal Service
CC Docket No. 96-45

ORDER AND ORDER ON RECONSIDERATION

Adopted: December 18, 2001

Released: December 18, 2001

By the Common Carrier Bureau:

I. INTRODUCTION

1. Consistent with action taken last year, we update line count input values for the high-cost universal service support mechanism for non-rural carriers for purposes of calculating and targeting support amounts for the year 2002. Specifically, we shall use updated line count data in the universal service cost model to estimate non-rural carriers' forward-looking economic costs of providing the services supported by the federal high-cost mechanism. In addition, non-rural support amounts will continue to be adjusted each quarter to account for line growth based on the wire center line count data reported quarterly by non-rural carriers. We further update the company-specific data used in the model to calculate investment in general support facilities and switching costs. Moreover, for purposes of calculating support for the year 2002, we will continue to utilize, at this time, a version of the model in Turbo-Pascal computer language. Additional time is needed to analyze the Delphi version, as well as alternative programming languages such as Visual-Basic, which commenters have recommended for use in the model. Finally, we deny a petition for reconsideration by Sprint Corporation (Sprint) of the Common Carrier Bureau's (Bureau) December 8, 2000 Order (2001 Line Counts Update Order).

II. LINE COUNTS

A. Background

2. On October 21, 1999, the Commission adopted two orders completing implementation of its high-cost universal service support mechanism for non-rural carriers. The mechanism provides

1 See Federal-State Joint Board on Universal Service, CC Docket 96-45, Order, 15 FCC Rcd 23960 (Com. Car. Bur. 2000) (2001 Line Counts Update Order).

2 Federal-State Joint Board on Universal Service, CC Docket 96-45, Ninth Report and Order and Eighteenth Order on Reconsideration, 14 FCC Rcd 20432 (1999) (Ninth Report and Order), reversed in part and remanded in part, Qwest Corp. v. FCC, 258 F.3d 1191 (10th Cir. 2001); Federal-State Joint Board on Universal Service, Forward-Looking Mechanism for High Cost Support for Non-Rural LECs, CC Docket Nos. 96-45, 97-160, Tenth Report and (continued....)

support based on the forward-looking economic cost of providing services eligible for support, as determined by the Commission's universal service cost model. In general, the forward-looking cost model estimates the cost of serving customers located within a given wire center's boundaries. In order to accomplish this task, the model must calculate: switch size; the lengths, gauge, and number of copper and fiber cables; and the number of digital loop carrier remote terminals required. These factors, in turn, depend on input values, such as line counts.

3. In the *Twentieth Reconsideration Order*, the Commission clarified that the cost model would use the line count input values (year-end 1998 line counts) adopted by the Commission in October 1999 for purposes of estimating average forward-looking costs for the year 2000.<sup>3</sup> The Commission also confirmed that support for 2000 would be calculated using wire center line count data reported by non-rural carriers on a quarterly basis.<sup>4</sup> On December 8, 2000, in the *2001 Line Counts Update Order*, the Bureau updated line counts by using year-end 1999 line counts filed July 31, 2000, as input values for estimating average forward-looking costs for the year 2001.<sup>5</sup> Because the number of line counts continually change, the Bureau noted that updating line counts would ensure that the model accounts for changes in costs due to changes in line counts.<sup>6</sup> The *2001 Line Counts Update Order* also stated that support amounts for 2001 would be adjusted every quarter using wire center line count data reported by non-rural carriers on a quarterly basis.<sup>7</sup>

4. In order to estimate the cost of providing service for all businesses and households within a geographic area,<sup>8</sup> line counts also need to be allocated to specific classes of service in the cost model.<sup>9</sup> In the *1999 Data Request*, the Bureau requested, *inter alia*, that non-rural carriers submit year-end 1998 wire center line count data allocated to the classes of service used in the model.<sup>10</sup> For purposes of

---

(...continued from previous page)

Order, 14 FCC Rcd 20156 (1999) (*Tenth Report and Order*), *affirmed*, *Qwest Corp. v. FCC*, 258 F.3d 1191 (10th Cir. 2001).

<sup>3</sup> See *Federal-State Joint Board on Universal Service*, CC Docket No. 96-45, *Twentieth Reconsideration Order*, FCC 00-126, para. 8 (rel. April 7, 2000) (*Twentieth Reconsideration Order*). These wire center line counts were generated by PNR Associates (now TNS Telecom) and trued-up to study area access line counts provided by carriers in their 1998 Automated Reporting Management Information System (ARMIS) filings. See *Tenth Report and Order*, 14 FCC Rcd at 20186, para. 61.

<sup>4</sup> See *Twentieth Reconsideration Order*, FCC 00-126 at para. 17.

<sup>5</sup> See *id.* at para. 8. In the *2001 Line Counts Update Order*, the Bureau also decided to update line counts without updating customer location data because, although updated line count data were available at that time, updated customer location data were not. The Bureau determined that it should not postpone updating line count data until a new customer location data set is compiled.

<sup>6</sup> See *2001 Line Counts Update Order*, 15 FCC Rcd at 23964, para. 11. For example, updated line counts enable the model's cost estimates to reflect the economies of scale generated by serving an increasing number of lines.

<sup>7</sup> See *id.* Non-rural carriers began filing quarterly wire center line counts for the first time on December 30, 1999.

<sup>8</sup> See *Federal-State Joint Board on Universal Service*, CC Docket No. 96-45, *Report and Order*, 12 FCC Rcd 8776, para. 250 (1997) (*First Report and Order*).

<sup>9</sup> Specifically, the model uses lines that are divided into five service classes: total business lines, residential lines, special lines, payphone lines, and single line business lines. See LineCount table in hcpm/Db/hcpm.mdb at [www.fcc.gov/ccb/apd/hcpm](http://www.fcc.gov/ccb/apd/hcpm)

<sup>10</sup> See *Federal-State Joint Board on Universal Service*, CC Docket No. 96-45, *Forward-Looking Mechanism for High-Cost Support for Non-Rural LECs*, CC Docket No. 97-160, *Order*, DA 99-1406 (Com. Car. Bur. rel. July 19, 1999) (*1999 Data Request*). The *1999 Data Request* required non-rural carriers to file year-end 1998 wire center line count data for total business lines, special lines, payphone lines, and single line business lines, measured as voice grade equivalent analog or digital lines. In addition, the *1999 Data Request* sought information on facility (as opposed to voice grade equivalent) line counts for business and special lines.

calculating forward-looking costs and determining support for 2001, in the *2001 Line Counts Update Order*, the Bureau concluded that line counts should be allocated to the classes of service used in the model based on the line count data filed pursuant to the data provided by the *1999 Data Request*.<sup>11</sup> Moreover, because line counts reported by non-rural carriers include only switched lines, the Bureau recognized in the *2001 Line Counts Update Order* that it could not divide year-end line counts into the data provided by the *1999 Data Request* to determine the growth rate of special lines. As a result, the Bureau divided the 1999 ARMIS special access lines among wire centers in the same proportion as the special lines from the *1999 Data Request* to estimate line count growth.

5. Non-rural carriers filed year-end 2000 wire center line count data on July 31, 2001.<sup>12</sup> On September 11, 2001, we sought comment on updating the line counts used in the cost model with these year-end 2000 data for purposes of determining support amounts for the year 2002.<sup>13</sup> We also sought comment on whether to apply the method used in the *2001 Line Counts Update Order* for allocating line counts to the classes of service used in the model based on the line count data filed pursuant to the *1999 Data Request*.<sup>14</sup> Because line counts reported by non-rural carriers include only switched lines, we also sought comment on whether to divide the 2000 ARMIS special access lines among wire centers in the same proportion as the special lines from the *1999 Data Request* to estimate special line growth. Finally we sought comment on whether to apply the method used in the *2001 Line Counts Update Order* for matching line count data to wire centers used in the model for calculating support for 2002.

## B. Discussion

6. Consistent with the framework adopted in the *Twentieth Reconsideration Order* and the *2001 Line Counts Update Order*, we conclude the cost model should use year-end 2000 line counts filed July 31, 2001, as input values for purposes of estimating average forward-looking costs and determining support for the year 2002. We also conclude that line counts should be allocated to the classes of service used in the model based on the line count data filed pursuant to the *1999 Data Request*. We further conclude that special access line counts should be allocated on the basis of the *1999 Data Request* data and trued-up to 2000 43-08 ARMIS special line counts.

7. 2000 Line Counts. We find that line count input values should be updated so that the model will take into account changes in costs that result from changes in line counts. In the *First Report and Order*, the Commission stressed that the model must estimate the cost of providing service for *all* businesses and households within a geographic area.<sup>15</sup> Accurate line counts are essential in accomplishing this task. Moreover, if line count input values remained static, the model's cost estimates would fail to reflect the economies of scale generated by serving an increasing number of lines.<sup>16</sup> Such a

---

<sup>11</sup> See *Line Counts Update Order*, 15 FCC Rcd at 23966-67, para. 15. Specifically, the Bureau allocated line counts to the classes of service used in the model by dividing the year-end 1999 lines reported by non-rural carriers into business lines, residential lines, payphone lines, and single business lines for each wire center in the same proportion as the lines filed pursuant to the *1999 Data Request* (year-end 1998 lines).

<sup>12</sup> See 47 C.F.R. §§ 36.611, 54.307.

<sup>13</sup> See *Common Carrier Bureau Seeks Comment on Updating Line Counts and Other Limited Information Used in Calculating High-Cost Universal Service Support for Non-rural Carriers for 2002*, CC Docket No. 96-45, Public Notice, DA 00-1825 (rel. Sept. 11, 2001) (*2002 Line Counts Update Public Notice*).

<sup>14</sup> Section 36.611 of the Commission's rules requires carriers to file, for universal service support purposes, "working Exchange Line C&WF loops used jointly for exchange and message telecommunications service, including C&WF subscriber lines associated with pay telephones in C&WF Category 1, but excluding WATS closed end access and TWX service." See 47 C.F.R. § 36.611(h).

<sup>15</sup> See *First Report and Order*, 12 FCC Rcd at 8912-16, para. 250 (emphasis added).

<sup>16</sup> See *First Report and Order*, 12 FCC Rcd at 8915, para. 250.

result would be inconsistent with the criteria adopted in the *First Report and Order* requiring that the cost model reflect the economies of scale of serving all lines within a geographic area.<sup>17</sup>

8. We also find that the lines reported by carriers on July 31, 2001 (year-end 2000 line counts) are the appropriate data to use for updating the cost model's input values at this time. We disagree with AT&T's argument that we should use projected line counts to estimate costs for the year in which support is provided.<sup>18</sup> Specifically, AT&T contends that using year-end line counts to calculate average per-line support levels and then using quarterly line count data to calculate a particular carrier's support amount creates a mismatch which distorts the amount of universal service support for which carriers are eligible.<sup>19</sup> In the *2001 Line Counts Update Order*, we concluded that line counts projections do not resolve the "purported 'mismatch'" between year-end line counts and quarterly line counts. We reaffirm that using projected line counts to estimate costs is not a preferable alternative in solving the disparity between year-end data used to estimate forward-looking costs and quarterly data used to calculate support.<sup>20</sup>

9. For purposes of estimating the forward-looking costs of providing supported services in 2002, we will therefore use year-end 2000 line counts in the model. We will also adjust support amounts every quarter to reflect the lines reported by carriers, according to the methodology set forth in the *Twentieth Reconsideration Order*.<sup>21</sup> We also recognize that the Commission plans to initiate a proceeding to study how often line counts and other input values should be updated.<sup>22</sup>

10. Various commenters contend that, in addition to updating line count input values, we should also update customer location and road data.<sup>23</sup> These commenters claim that updating only line counts ignores line growth in new areas, such as new homes built along new roads, which in turn may cause the model to understate the costs per line.<sup>24</sup> Consistent with our action in the *2001 Line Counts Update Order*, we will not update customer location and road data at this time.

11. In the *2001 Line Counts Update Order*, the Bureau updated line counts without updating customer location data because, although updated line count data were available at that time, updated customer location data were not.<sup>25</sup> The Bureau concluded that it should not postpone updating line count

---

<sup>17</sup> See *id.*

<sup>18</sup> See AT&T Comments at 2-5; *2001 Line Counts Update Order*, 15 FCC Rcd at 23964, para. 10. AT&T concedes that until the Commission adopts some method of projecting model line counts to the year for which support is provided, we should use the year-end line count data filed by carriers on July 31, 2001.

<sup>19</sup> See AT&T Comments at 3. AT&T raised the same argument in last year's line counts proceeding. See *2001 Line Counts Update Order*, 15 FCC Rcd at 23964, para. 10.

<sup>20</sup> *2001 Line Counts Update Order*, 15 FCC Rcd at 23964, para. 10.

<sup>21</sup> See *Twentieth Reconsideration Order*, FCC 00-126.

<sup>22</sup> See *2000 Biennial Regulatory Review – Comprehensive Review of the Accounting Requirements and ARMIS Reporting Requirements for Incumbent Local Exchange Carriers: Phase 2*, CC Docket Nos. 00-199, 97-212, and 80-286, Report and Order, FCC 01-305, para. 45 n. 69 (rel. Nov. 5, 2001); *Tenth Report and Order*, 14 FCC Rcd at 20170, para. 28; *2001 Line Counts Update Order*, 15 FCC Rcd at 23965, para. 11. See also *infra* para. 23.

<sup>23</sup> See BellSouth Comments at 2-3; Qwest Comments at 1; Verizon Comments at 1-3; Florida PSC Comments at 2-3. Any updates to the customer location data for the road surrogate algorithm would also include updated road data. Therefore, for purposes of this order, we find it unnecessary to distinguish between the two.

<sup>24</sup> See BellSouth Comments at 2-3; Qwest Comments at 1; Verizon Comments at 2.

<sup>25</sup> See *2001 Line Counts Update Order*, 15 FCC Rcd at 23965-66, para. 13. Moreover, the Bureau determined that until the model uses updated customer location data, all new lines would be treated as additional lines at existing locations, with their additional costs included in the model's costs estimates. See *id.* On January 26, 2001, Sprint

(continued...)

data until a new customer location data set is compiled. The Bureau determined that a substantial part of the costs associated with new lines would be included in the model's cost estimates because the majority of new residential lines are secondary lines.<sup>26</sup> In addition, because the cost model uses road surrogate customer location data, many of the structure costs associated with new locations would also be included in the model's cost estimates. Even though certain costs associated with new customer locations may not be reflected in the model's cost estimates, the Bureau decided on balance to update line counts. Otherwise, the interval between model lines and reported lines would continue to grow without readjustment.<sup>27</sup> Consistent with our findings in the *2001 Line Counts Update Order*, and because an updated customer location and road data set remains unavailable at this time, we find that it is best not to delay updating line counts until a new customer location and road data set are obtained.

12. Verizon notes that, since the *2001 Line Counts Update Order* was adopted, year 2000 Census road data and year 2000 customer location data have become available.<sup>28</sup> Verizon suggests that the Bureau use these data to update the customer location and road data set used in the model.<sup>29</sup> In the *2001 Line Counts Update Order*, the Bureau stated, "[u]ntil the Commission adopts new customer location data, all new lines should be treated as additional lines at existing locations in the model, with their additional costs included in the model's cost estimates."<sup>30</sup> We recognize that this new source of year 2000 Census data may be useful in creating an updated customer location and road data set in the future.<sup>31</sup> Such information, however, is not in a usable data set format for purposes of determining support for 2002.<sup>32</sup> We therefore, defer the issue of using these data in the model until the Commission initiates a comprehensive proceeding to study revisions and changes to the model inputs and model platform.<sup>33</sup> In the meantime, all new lines should be treated as if they were located at existing locations in the model.

13. Class of Service Allocations. We find that using the methodology employed in the *2001 Line Counts Update Order*, which used year-end wire center line count data filed pursuant the *1999 Data Request*, remains a reasonable method for allocating line counts to the classes of service used in the model. All commenters addressing this issue support this approach, although AT&T and WorldCom suggest that it would be preferable if the Bureau were to require incumbent local exchange carriers to

---

(...continued from previous page)

Corporation (Sprint) filed a petition for reconsideration of the *2001 Line Counts Update Order*. We deny Sprint's petition in Section V of this Order.

<sup>26</sup> The Bureau estimated that 65 percent of the increase in residential lines occurred at existing locations. See *2001 Line Counts Update Order*, 15 FCC Rcd at 23695, para. 12. Moreover, Commission staff's more recent estimates attribute approximately 72 percent of the increase in residential lines to additional lines at existing locations. In addition, as AT&T notes, costs may also be overstated due to the uses of surrogate data in place of real geocode data and the model's assumption that separate customers in one building (*i.e.*, apartment buildings, condominiums, etc.) live at different locations. See AT&T Reply Comments at 3.

<sup>27</sup> See *2001 Line Counts Update Order*, 15 FCC Rcd at 23965-66, para. 13.

<sup>28</sup> See Verizon Comments at 3.

<sup>29</sup> See *id.*

<sup>30</sup> See *2001 Line Counts Update Order*, 15 FCC Rcd at 23965, para. 12.

<sup>31</sup> See also Supporting Comments of Qwest Corp., Sprint Corporation's Petition for Reconsideration, filed Jan. 26, 2001. As stated *supra*, the Commission anticipates studying inputs updates in a future proceeding.

<sup>32</sup> Nor do we find it feasible, as suggested by AT&T, to require ILECs to provide geocode data or obtain geocode data from TNS Telcom (formerly PNR & Associates), in a timely manner for determining 2002 support. See A&T Delphi Public Notice Comments at 10.

<sup>33</sup> See *infra* para. 23.

submit their year-end line counts disaggregated into service type.<sup>34</sup> We believe that the methodology employed in the *2001 Line Counts Update Order* is a preferable approach because it remains a reasonably accurate process for disaggregating line counts without imposing burdensome reporting requirements on carriers.<sup>35</sup> For purposes of 2002 support, we therefore shall allocate line counts to the classes of service used in the model by dividing the year-end 2000 lines reported by non-rural carriers into business lines, residential lines, payphone lines, and single line business lines for each wire center in the same proportion as the lines filed pursuant to the *1999 Data Request* (year-end 1998 lines).<sup>36</sup>

14. We also find that estimating special line growth for purposes of calculating 2002 support can be accurately determined by dividing the 2000 ARMIS special access lines among wire centers in the same proportion as the special lines from the *1999 Data Request*.<sup>37</sup> Because line counts reported by non-rural carriers include only switched lines, the Bureau recognized in the *2001 Line Counts Update Order* that it could not divide year-end line counts into the data provided by the *1999 Data Request* to determine the growth rate of special lines.<sup>38</sup> As a result, the Bureau instead decided to divide the 1999 ARMIS special access lines among wire centers in the same proportion as the special lines from the *1999 Data Request* to estimate line count growth.<sup>39</sup> We find that this methodology continues to be a reasonable approach to estimating special line growth for calculating support for 2002.<sup>40</sup>

15. Matching Wire Centers. We will use the same methodology employed in the *2001 Line Counts Update Order* to match wire centers reported by carriers in their quarterly line count filings with wire centers found in the *1999 Data Request* and in the model's customer location data. AT&T argues that, because the year-end 2000 line count data also needs to be matched to wire centers in the cost model,

---

<sup>34</sup> See AT&T Comments at 5-6; WorldCom Comments at 1. To the extent the Bureau uses such information in the model, AT&T requests that it be made publicly available. See AT&T Comments at 5. Because we are not adopting AT&T's proposal, it is unnecessary to address such a request. Moreover, for wire centers receiving support, quarterly wire center line count data to the limited extent that the number of lines in wire centers receiving support may be determined when the Commission releases per-line and total support amounts. See *Federal-State Joint Board on Universal Service*, CC Docket No. 96-45, Order, 15 FCC Rcd 8746 (2000). Line count data for wire centers not receiving support are available pursuant to the procedures set forth in the Commission's interim protective order. See *Federal-State Joint Board on Universal Service*, CC Docket No. 96-45, Interim Protective Order, 15 FCC Rcd 10,183 (Com. Car. Bur. 2000).

<sup>35</sup> See *2001 Line Counts Update Order*, 15 FCC Rcd at 23966, para. 14. See also Verizon Comments at 1-2.

<sup>36</sup> For each wire center we determine the fraction of the USF loops reported July 31, 2001, that should be categorized as business lines, residential lines, payphone lines, and single line business lines for use in the model. These fractions are calculated using the *1999 Data Request* lines for each wire center as follows: (1) the numerator is the relevant category -- business lines, residential lines, payphone lines, or single line business lines; and (2) the denominator is the sum of business lines, residential lines, and payphone lines. Single line business lines are not included in the denominator because they already are included in the number of business lines. See *1999 Data Request* at 4. USF loops for each wire center are then multiplied by the fractions calculated from the matching wire center in the *1999 Data Request* data to determine the line counts inputs for the matching wire center in the model.

<sup>37</sup> Special access lines are dedicated lines that connect two or more end users without passing through a switch in a carrier's wire center.

<sup>38</sup> See *2001 Line Counts Update Order*, 15 FCC Rcd at 23966, para. 16.

<sup>39</sup> See *id.*

<sup>40</sup> Although commenters generally support this approach, Verizon requests that the Bureau count special access lines differently in the model platform. Currently, the model uses that actual number of special access lines to account for costs due to growth but then uses voice grade equivalents to calculate final per-line costs. See Verizon Comments at 4. Such a methodology, contends Verizon, causes the model to understate the costs of providing universal service. Because Verizon's claim concerns a platform change, we defer such issues to a future proceeding. See *infra* para. 23.

the Bureau should require non-rural carriers to match their year-end line counts with those filed pursuant to the *1999 Data Request*. We do not believe such a requirement is necessary at this time because year end line counts can be matched to those filed pursuant to the *1999 Data Request* by Bureau staff without imposing additional reporting requirements on incumbent local exchange carriers.

### III. OTHER INPUTS

16. General Support Facilities. In addition to line counts, the model uses other types of data that are updated annually under current Commission rules and procedures. Among other things, the model uses company-specific ARMIS data to calculate investment in general support facilities (GSF).<sup>41</sup> GSF investment includes buildings, motor vehicles, and general purpose computers.<sup>42</sup> A portion of GSF investment must be added to the model's estimate of outside plant, switching, and transport investment to adequately reflect the cost providing the supported services. In the *2002 Line Counts Update Public Notice*, we sought comment on whether we should update the tables in the model with 2000 ARMIS data to estimate GSF investment.

17. We find that updating the tables used in the model with 2000 ARMIS data used to compute GSF investment will improve the model's cost estimates by taking into account the current costs of GSF investment associated with supported services. Although commenters generally support this inputs update,<sup>43</sup> Verizon requests that the Bureau also revisit the current methodology established in the *Tenth Report and Order* which is used to estimate GSF investment.<sup>44</sup> Verizon recommends that the Bureau expand the algorithm for estimating GSF investment to include other parameters, such as route length and the number of lines served.<sup>45</sup> We find that altering the algorithm and inputs established in the *Tenth Report and Order* used to calculate GSF investment is beyond the scope of this proceeding and defer such issues to a future proceeding tailored to studying such platform changes.<sup>46</sup>

18. Switching. The model also uses company-specific data in determining switching costs. A wire center's switch directs both interstate and intrastate traffic. Universal service support, however, is only provided for the portion of the switch used to direct intrastate traffic. Therefore, to determine the amount of a wire center's switch that is eligible for support, the model needs to determine the percentage of the switch used to direct intrastate service. The model currently uses 1998 ARMIS Dial Equipment Minutes (DEM) data to determine the overall switch usage. Then, because the ARMIS DEM data do not distinguish between local and intrastate toll usage, the model uses 1997 traffic parameter data filed with the National Exchange Carrier Association (NECA) which, in addition to identifying intrastate and

---

<sup>41</sup> See *Tenth Report and Order*, 14 FCC Rcd at 20335-36, paras. 409-10.

<sup>42</sup> See *Tenth Report and Order*, 14 FCC Rcd at 20335-36, para. 409.

<sup>43</sup> See AT&T Comments at 7-8; FPSC Comments at 3; WorldCom Comments at 1-2.

<sup>44</sup> See Verizon Comments at 5. For each study, the model calculates a GSF investment ratio for each GSF account by dividing the ARMIS investment for the account by the ARMIS total plant in service (TPIS) less GSF investment. Next, the model calculates a preliminary estimate for GSF investment for each account by multiplying the model's forward-looking estimate of TPIS costs by the GSF investment ratio calculated in step one. Finally, the model multiplies this preliminary estimate by a nationwide allocation factor to determine the portion of GSF investment related to the cost of providing services under the federal mechanism. By linking GSF investment to forward-looking estimates, Verizon claims the model incorrectly assumes the two factors are linked. Specifically, if the model reduces total plant in service due to the use of forward-looking data, Verizon suggests that the GSF will incorrectly decrease. As a result, Verizon suggests that the model's GSF investment algorithm should include "other parameters, such as route length and the number of lines served." See Verizon Comments at 5.

<sup>45</sup> See Verizon Comments at 5.

<sup>46</sup> See *infra* para. 23.

interstate switch usage, identifies the local DEM to compute the portion of non-interstate local usage.<sup>47</sup> Therefore, the model currently uses data sources from different years to determine the portion of the switch used to direct intrastate traffic. In the *2002 Line Counts Update Public Notice*, we sought comment on whether we should update the tables in the model with currently available traffic parameters to determine the percentage of switch allocated to supported services and the switch port requirement for interoffice transport. In particular, we sought comment on whether it would be more consistent to use only NECA traffic parameter data instead of obtaining these data from two sources.

19. We conclude that we should update the tables in the model with the most recent traffic parameters available from NECA to determine the percentage of the switch allocated to supported services and the switch port requirement for interoffice transport. AT&T and WorldCom contend that the Bureau should not rely solely on NECA data to apportion switch costs to supported services.<sup>48</sup> They argue that because the DEM data provided by NECA is one year older than the data in ARMIS, if the model used only NECA data, that would ignore the growth in minutes that occurs in the following year and lose the economies of scale that result from increases in minutes. We disagree. Although ARMIS data are more recent than NECA data, they are incomplete for purposes of determining local switch usage. As a result, ARMIS data would need to be combined with the prior year's NECA data to allocate the percentage of the switch to supported services. We believe such a mismatch in data could cause the model to distort local switching usage. We conclude, therefore, that a preferable alternative is to use only NECA data for switch allocation, which are only one year behind the ARMIS data but contain all the data necessary to serve as the sole source for switch apportionment.<sup>49</sup> We will continue to use ARMIS traffic parameter data for estimating signaling costs.

#### IV. MODEL PLATFORM

##### A. Background

20. In the *Fifth Report and Order*, the Commission adopted the model platform to be used under its forward-looking cost mechanism in determining federal high-cost universal service support for non-rural carriers.<sup>50</sup> When the Commission adopted the model platform, it anticipated it would review and adjust the model periodically.<sup>51</sup> The Commission delegated to the Bureau "the authority to make changes or direct that changes be made as necessary and appropriate to ensure that the model platform of the federal mechanism operates as described in this Order."<sup>52</sup> Consistent with this delegated authority, the Bureau has worked with interested parties to identify instances where the model is not working as

<sup>47</sup> NECA provides quarterly reports on access minutes of use to the Commission, which are posted on the Commission's web site at [www.fcc.gov/Bureaus/Common\\_Carrier/Reports/FCC-State\\_Link/neca.html](http://www.fcc.gov/Bureaus/Common_Carrier/Reports/FCC-State_Link/neca.html).

<sup>48</sup> See AT&T Comments at 8-9; WorldCom 2-3.

<sup>49</sup> In addition, even if we used NECA data for switch apportionment, MCI WorldCom and AT&T argue that the Commission would still need to utilize other data that is contained in ARMIS. See MCI WorldCom Comments at 2-3; AT&T Comments at 8-9. These data include local call attempts, intraLATA toll messages, intrastate interLATA messages, and interstate interLATA messages. As a result, these commenters contend that eliminating the use of ARMIS DEM would not simplify data used in the model because other ARMIS data are used elsewhere. We disagree. The above data are not used for the switch apportionment component of the model, but rather are used to determine signaling which is part of the transport component of the model. Moreover, unlike the ARMIS data previously used for switch apportionment, the ARMIS data used for signaling are a complete data set that does not have to be supplemented from other sources.

<sup>50</sup> *Federal-State Joint Board on Universal Service*, CC Docket Nos. 96-45, 97-160, Fifth Report and Order, 13 FCC Rcd 21,323 (rel. Oct. 28, 1998) (*Fifth Report and Order*).

<sup>51</sup> See *Fifth Report and Order*, 13 FCC Rcd at 21329, para. 13.

<sup>52</sup> See *id.*

intended and suggest appropriate modifications. Periodically, the Commission staff post updated versions of the cost model on the Commission's web site, along with an explanation.<sup>53</sup>

21. Recently, under its delegated authority, the Bureau sought comment on updating the model's Turbo-Pascal computer programming language. Specifically, in a Public Notice released on June 20, 2001, the Bureau announced the posting of a version of the cost model in Delphi computer language on its web site.<sup>54</sup> The Bureau sought comment on advantages of the Delphi version over the previously used Turbo-Pascal computer language, recommendations concerning improvements to the Delphi version, and whether it should use the Delphi version of the model for purposes of calculating support amounts for 2002.<sup>55</sup>

## B. Discussion

22. We defer, until a later date, the question of whether and when to transition to the Delphi version of the forward-looking cost model. The Delphi version posted on the Commission's web site contained certain modifications, in addition to translation to the Delphi computer language.<sup>56</sup> Commenters have noted that some of the cost estimates generated by this modified version of the cost model significantly differ with the results from the previous year's Turbo-Pascal version.<sup>57</sup> This may warrant further investigation of whether the total amount of universal service support can vary substantially with small changes in inputs due to technical corrections to the model. In addition, numerous commenters have recommended use of the cost model in Visual Basic computer language in lieu of the Delphi version.<sup>58</sup> They contend that Visual Basic is a preferable computer language because it is: (1) more widely used than Delphi; and (2) part of the cost model already uses Visual Basic and therefore, transition here would make the cost model more uniform. In order to permit an opportunity for further consideration and analysis of these issues, we will use a Turbo-Pascal version of the model, at present, to calculate support for non-rural carriers for calculating 2002 cost estimates. We anticipate that a number of technical corrections will ultimately be made to the cost model. Upon further examination of proposed modifications, we may revise our calculations of support for future quarters in 2002.

23. As a final matter, various commenters have also suggested the Bureau use this

---

<sup>53</sup> See, e.g., *Common Carrier Bureau Announces Procedures for Releasing High-Cost Support Amounts for Non-Rural Carriers and Revised Model Results*, CC Docket Nos. 96-45 and 97-160, Public Notice, 15 FCC Rcd 15,559 (2000). The model and related files are located at [www.fcc.gov/ccb/apd/hcpm](http://www.fcc.gov/ccb/apd/hcpm). The technical explanation of all modifications made to date is available in the "history.doc" file.

<sup>54</sup> *Common Carrier Bureau Seeks Comment on Translation of Cost Model to Delphi Computer Language and Announces Posting of Updated Cost Model*, CC Docket No. 96-45, Public Notice (rel. June 20, 2001).

<sup>55</sup> See *id.* In July 31, 2001, the United States Court of Appeals for the Tenth Circuit affirmed use of the model to calculate forward-looking cost and deferred to the Commission's expertise in establishing the technical specifications of the model, such as the appropriate computer language for the model. See *Qwest Corp. v. FCC*, 258 F.3d 1191, 1205-06 (10th Cir. 2001). The court also upheld the Commission's authority to fix technical errors in the model without notice and comment. See *id.* at 1206-07.

<sup>56</sup> For example, the source code involving index values that refer to lookup tables for the cost of drop terminals, manholes, and service area interfaces (SAIs) was modified to retrieve a different term. Also, the location of drop terminals was adjusted to reflect the default value of 360 feet for grid cells containing customer locations. Finally, the size of SAIs was adjusted to account for cable sizes on both the distribution and feeder side of the interface.

<sup>57</sup> See BellSouth, Qwest, and Sprint Joint Delphi Public Notice Comments at 2.

<sup>58</sup> See BellSouth, Qwest, and Sprint Joint Delphi Public Notice Comments at 2; Verizon Delphi Public Notice Comments at 2.

proceeding to make changes to the model platform and inputs.<sup>59</sup> Such comments go beyond the scope of the Public Notices that are the subject of this Order, which sought comment on the narrow issues of whether to use a Delphi version of the forward-looking model for purposes of calculating support for 2002 and whether to update certain inputs such as line counts. The Commission has anticipated initiating a separate proceeding to study improvements to the model's inputs and platform in a comprehensive manner.<sup>60</sup> We therefore, defer such issues to such a future proceeding.

## V. PETITION FOR RECONSIDERATION OF SPRINT CORPORATION

### A. Background

24. On January 26, 2001, Sprint filed a Petition for Reconsideration of the *2001 Line Counts Update Order*.<sup>61</sup> In its Petition for Reconsideration, Sprint requested that the Bureau or the Commission reconsider the Bureau's decision in the *2001 Line Counts Update Order* to update the model's line counts for purposes of determining support for 2001, without updating the customer location data set. Sprint requests that we issue a new order mandating that customer location data and road data be updated along with line counts.<sup>62</sup>

### B. Discussion

25. We deny Sprint's petition for reconsideration of the *2001 Line Counts Update Order*. Specifically, after review of the arguments presented on reconsideration, we conclude that Sprint has not provided any new information or arguments that require us to alter our decision to update line counts without updating customer location data for purposes of calculating support for 2001. As we have explained above, in the *2001 Line Counts Update Order*, updated line count data were available for the model's inputs, but updated customer location data were not.<sup>63</sup> Consequently, the Bureau concluded that, on balance, it was better to update the model with available line count data at that time than wait until a customer location data set could be obtained.<sup>64</sup>

26. Relying on that same analysis and reasoning, as part of this Order, we have decided to use updated line count data in the universal service cost model for purposes of calculating support for non-rural carriers for 2002 without updating customer location data.<sup>65</sup> Again, because an updated customer

---

<sup>59</sup> For example Roseville Telephone Company suggest the Bureau create a set of inputs tailored to mid-sized companies. See Roseville Comments at 7. Further, BellSouth, Qwest, and Sprint urge the Commission to modify its methodology to compute special access lines, and AT&T requests that the model platform be changed to reflect structure sharing between feeder and distribution facilities. BellSouth, Qwest, and Sprint Joint Delphi Public Notice Comments at 7; AT&T Delphi Public Notice Comments at 11-12.

<sup>60</sup> See *Tenth Report and Order*, 14 FCC Rcd at 20170, para. 28 ("We therefore have committed to initiating a proceeding to study how the model should be used in the future (e.g., how inputs data should be updated) and how the model itself should change to reflect changing circumstances."); *2001 Line Counts Update Order*, 15 FCC Rcd at 23965, para. 11 ("We defer to a future proceeding the issue of how often line counts and other input values should be updated."). See also *supra* note 22.

<sup>61</sup> *In the Matter of Federal-State Joint Board on Universal Service*, CC Docket No. 96-45, Sprint Corporation's Petition for Reconsideration, filed Jan. 26, 2001.

<sup>62</sup> See *Sprint Petition for Reconsideration* at 7.

<sup>63</sup> See *2001 Line Counts Update Order*, 15 FCC Rcd at 23965-66, para. 13; *supra* para. 11.

<sup>64</sup> The Bureau stressed that because carriers reported lines were updated for calculating support, the model's line input values should also be updated. Otherwise the time lag between the model inputs and reported lines would continue to grow without readjustment. See *2001 Line Counts Update Order* 15 FCC Rcd at 23965-66, para. 13.

<sup>65</sup> See *supra* paras. 10-12.

location and road data set remains unavailable for use at this time, we find that, on balance, it is best not to delay updating line counts for the reasons stated herein.<sup>66</sup> In addition, we note that the Commission intends to initiate, at a later date, a proceeding to study proposed revisions and changes to the model inputs and model platform.<sup>67</sup>

## VI. ORDERING CLAUSES

27. Accordingly, IT IS ORDERED that, pursuant to the authority contained in sections 1-4, 201-205, 214, 218-220, 254, 303(r), 403, and 410 of the Communications Act of 1934, as amended, 47 U.S.C. §§ 151-154, 201-205, 214, 218-220, 254, 303(r), 403, and 410, and section 1.108 of the Commission's rules, 47 C.F.R. § 0.91(f), this ORDER IS ADOPTED.

28. IT IS FURTHER ORDERED that, pursuant to sections 4, 201-205, 218-220, 303(r), and 405 of the Communications Act of 1934, as amended, 47 U.S.C. §§ 154, 201-205, 218-220, 303(r), and 405 of the Communications Act of 1934, as amended, and sections 1.106 and 1.429 of the Commission's rules, 47 C.F.R. §§ 1.106, 1.429, that the petition for reconsideration filed January 26, 2000, by Sprint Corporation is DENIED.

FEDERAL COMMUNICATIONS COMMISSION

Carol E. Matthey  
Deputy Chief, Common Carrier Bureau

---

<sup>66</sup> *Id.*

<sup>67</sup> *See supra* note 22.